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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

YAO, SAM CHAUN CUA

ART UNIT	PAPER NUMBER
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1733

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DATE MAILED: 04/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/284,863

Applicant(s)

STENGAARD ET AL.

Examiner

Sam Chuan C. Yao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-42, 44, 46, 48 and 50-84 is/are pending in the application.
- 4a) Of the above claim(s) 26-42 and 66-84 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44, 46, 48 and 50-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44, 46, 48 and 51-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US 5,525,243) and in view of Jensen et al (US 5,958,806; using a PCT Pub date of 07-20-95).

With respect to claims 44 and 51-58, Ross discloses a cardable polyolefin fiber, such as a polyethylene and polypropylene, which is coated with a finishing composition comprising about 5-25 weight percent of an anti-static agent, about 15-50 weight percent of polyethylene glycol, about 0-80 weight percent of an emulsifier, and the balance is a lubricant, wherein the lubricant is selected from a non-water soluble alkyl esters such as a **tridecyl stearate** (col. 2 lines 36-45; col. 4 lines 39-54; col. 5 lines 9-15).

It is unclear whether Ross teaches forming a hydrophobic finishing composition; and Ross does not expressly disclose an amount of non-water soluble alkyl esters (**tridecyl stearate**) that is coated on the fiber. However, it would have been obvious in the art to form a hydrophobic finishing composition in a process taught by Ross, because Jensen discloses using a hydrophobic finishing composition comprising a

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hydrophobic lubricant to form hydrophobic polyolefin fibers so as to enhance the characteristics (i.e. provide a water repellant web surface so that it can function as a liquid barrier, suitable for disposal diapers, etc.) of resultant nonwoven fabrics; and suggests increasing the amount of hydrophobic lubricant if other component in the composition is hydrophilic in nature; and also teaches reducing the amount of polar components being hydrophilic in nature such as an antistatic agent to *"preserve the hydrophobic nature"* of a resultant finishing composition (abstract; col. 1 lines 11-25; col. 2 lines 16-68; col. 3 lines 3-13; col. 6 lines 34-67). The collective teachings of Ross and Jensen et al would have suggested to one in the art that an effective and yet a simple way to form a hydrophobic composition is to reduce the amount of polar components and/or increase a relative amount of hydrophobic lubricant (**tridecyl stearate**) in the finishing composition taught by Ross. For example, one can form a fiber finishing composition comprising around 70-80 weight % of a hydrophobic lubricant such as a tridecyl stearate, about 5 weight percent of antistatic agent, about 15 weight% polyethylene glycol, about 0-10 weight% emulsifier. Moreover, it would have been obvious in the art to coat the recited amount of non-water soluble alkyl esters (**tridecyl stearate**) onto the polyolefin fiber of Ross because Ross discloses *that "The amount of finish composition to be applied onto a synthetic filament is also dependent on the end product of the filament yarn"*, and further discloses using 0.5-1.0% or .75-1.25% of a finish composition (col. 7 line 40 to col. 8 line 33); and because it is well within the purview in the art to determine, by routine experimentation, a suitable amount of lubricant for fibers for the desired end-use of a resultant article. Note: the above

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finishing composition would produce fibers having tridecyl stearate in the amount of about .08 weight % (.8 X 1% of finishing composition) or 1.0 weight % (.8 X 1.25% of finishing composition).

With respect to claims 46 and 48, see column 8 lines 1-5 of Ross. It is understood that the fibers in the nonwoven web of Ross are bonded together.

With respect to claims 59-61, see column 3 line 56 to column 4 line 8. Note that, Ross teaches using phosphate antistatic agents (see column 3 lines 57-59). The recited formula is a well known phosphate ester or salt anti-static agent in the art.

With respect to claim 62, the recited materials are well known friction reducing agents in the art. Note that Ross discloses the importance of reducing fiber friction, and also discloses, in a related prior art, various friction reducing materials such as waxes, silicone oil, etc (col. 2 lines 18-28, lines 56-62).

With respect to claims 63, see column 2 lines 18-28; and column 4 lines 1-8.

With respect to claims 64-65, the finishing composition of Ross comprises about 5-25 weight percent of antistatic agent, about 15-50 weight% polyethylene glycol, about 0-80% emulsifier, and the remainder is a lubricant such as a tridecyl stearate (col. 3 lines 33-43; col. 4 lines 40-54). Therefore, it would have been obvious in the art to form a fiber finishing composition comprising around 80 weight % of lubricant such as a tridecyl stearate, about 5 weight percent of antistatic agent, about 15 weight% polyethylene glycol, about 0 weight% emulsifier. Since a fiber is coated with a finishing composition which is mainly composed of a tridecyl stearate (i.e. 80 weight %); since tridecyl stearate taught by Ross is the same preferred material as Applicant evidence

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from the specification on page 12 lines 25-30 with an amount which falls on the upper end of a preferred finishing composition disclosed on page 11 lines 22-33; and since the amount of tridecyl stearate on a fiber using the above finishing composition is about .08 weight % (.8 X 1% of finishing composition) or 1.0 weight % (.8 X 1.25% of finishing composition), which is at least close (if not the same) as the upper-most value of 1% by weight recited in claim 44, it would be reasonable to expect that the recited hydrophobicity values in these claims, as measured by the WRC test would naturally flow from the teachings of Ross using the above finishing composition. In any event, absent any showing of unexpected result/benefit with regard to the recited WRC range, one in the art would have determined, by routine experimentation, a workable degree of fiber hydrophobicity for the desired end-use of polyolefin fibers.

3. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ross (US 5,525,243) in view of Jensen et al (US 5,958,806) as applied to claim 48 above, and further in view of either Haffner et al (US 5,514,470) or Connell et al (US 5,509,142) or Willey et al (US 5,494,736) for reasons of record set forth in Paper No. 18 numbered paragraph 3.

Response to Arguments

4. Applicant's arguments filed 03-03-03 have been fully considered but they are not persuasive.

In response to Counsel's arguments that, the fibers taught by Ross are NOT hydrophobic as evidence from tests conducted on a composition disclosed in example VI. Applicant/Counsel is herein apprised that a reference is not confined to the disclosed

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working examples. A proper evaluation of the reference must include a determination of what the reference, taken as a whole, reasonably conveyed to one having ordinary skill in the art. To this end, it is believed that, even if the finishing composition in example VI is NOT hydrophobic, this does not necessarily suggest all finishing compositional ranges disclosed in the Ross patent are also not hydrophobic. The invention of Ross is not directed to forming hydrophilic fibers. The main essence of the Ross patent is to form a spin finishing composition having desired frictional as well as antistatic properties (col. 2 lines 29-62). As noted earlier, the finishing composition taught by Ross comprises about 5-25 weight percent of an anti-static agent, about 15-50 weight percent of polyethylene glycol, about 0-80 weight percent of an emulsifier, and the balance is a lubricant, wherein the lubricant is selected from a non-water soluble alkyl esters such as a **tridecyl stearate (hydrophobic)**. Jensen discloses using a hydrophobic finishing composition comprising a **hydrophobic lubricant** to form hydrophobic polyolefin fibers so as to enhance the characteristics (i.e. provide a water repellant web surface so that it can act as a liquid barrier, suitable for disposal diapers, etc.) of resultant nonwoven fabrics; teaches increasing the amount of hydrophobic lubricant if other components are hydrophilic; and further suggests reducing the amount of polar components (i.e. hydrophilic) such as an antistatic agent *"in order to preserve the hydrophobic nature"* of a resultant finishing composition (abstract; col. 1 lines 11-25; col. 2 lines 16-68; col. 3 lines 3-13; col. 6 lines 34-67). The collective teachings of Ross and Jensen et al would have suggested to one in the art that, an effective and yet simple way to form a hydrophobic composition is to simply reduce the amount of polar

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components and/or increase the amount of a hydrophobic lubricant (**tridecyl stearate**) in a finishing composition taught by Ross. For example, one could form a fiber finishing composition comprising around 60-80 weight % of a hydrophobic lubricant such as a tridecyl stearate, about 5 weight percent of antistatic agent, about 15 weight% polyethylene glycol, about 0-20 weight% emulsifier. It is suggested for Counsel to conduct tests on of the above finishing compositions (for example, 60%,70% tridecyl stearate and 10%,20% emulsier, using 5% antistatic agent, and 15% polyethylene glycol) to determine whether or not, the resultant compositions are hydrophobic or not.

In response to Counsel's argument regarding the Jensen patent, it is respectfully submitted that, what is critical on the issue of patentability under 35 U.S.C. 103(a) is "what would have been obvious to one of ordinary skill in the art at the time the invention was made in view of the sum of all the relevant teachings in the art, not in view of the first one and then another of the isolated teachings in the art." In re Kuderna, 165 USPQ 575 (CCPA 1970). As for Counsel's assertion on page 8 that *"The manner in which one can increase hydrophobicity is not disclosed or suggested by any of the cited references to an extent that the ordinary skilled artisan would expect success in achieving a high hydrophobicity."* (emphasis added). First of all, Counsel's argument is not commensurate with the scope of the recited claims. The claims as presently recited only require a *"fibers carrying at its surface hydrophobic finish"*. This reads on fibers coated with a finishing composition that is slightly hydrophobic. Equally important, contrary to Counsel's assertion, Jensen clearly teaches a simple and yet effective method *"to preserve the hydrophobic nature"* of a resultant finishing composition (col. 6

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lines 51-65). Jensen teaches increasing the amount of hydrophobic lubricant if other components are naturally hydrophilic; and also suggests reducing the amount of polar components (i.e. hydrophilic) such as an antistatic agent to ensure that a resultant finishing composition is hydrophobic in nature (col. 3 lines 3-13; col. 6 lines 34-67).

As for Counsel's argument on page 9 1st full paragraph that, *"PEG is not suitable in the amounts suggested by Ross '243 in combination with any amount of tridecyl stearate."* It is respectfully submitted that, Counsel's argument is not commensurate with the scope of the recited claims. The claims as presently recited do not preclude an amount of PEG in a finishing composition suggested by Ross '243. It is suggested to explicitly recite a composition in weight ranges that would clearly define over the composition suggested by Ross '243 (i.e. define over the amount of PEG suggested by Ross '243).

As for Counsel's argument on on page 2nd full paragraph regarding the stage at which an anti-static agent is applied, Counsel's argument is not commensurate with the scope of the recited claims. There is nothing in the recited claims which remotely recite *"adding the anti-static agent in a later processing step ..."*.

Conclusion

5. Note: in number paragraph 3 above, *"in view of Jensen et al (US 5,958,806)"* was inserted. Examiner inadvertently omitted the Jensen et al patent. However, one would readily understood that, the Jensen et al patent should properly be included in numbered paragraph 3, since this claim was/is rejected *"as applied to*

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claim 48 above [numbered paragraph 2]" (words inserted). Claim 48 was/is rejected under 35 USC 103 as being obvious over Ross in view of Jensen.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Chuan C. Yao whose telephone number is (703) 308-4788. The examiner can normally be reached on Monday-Friday with second Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W Ball can be reached on (703) 308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 305-7718 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.



Sam Chuan C. Yao
Primary Examiner
Art Unit 1733

scy
April 3, 2003